The Nursing Outcomes Classification (NOC)

An Overview of its Development and Features

(Iowa Outcomes Project, 2000)

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What is NOC?

The Nursing Outcomes Classification (NOC) was developed by a University of Iowa research team which was first formed in 1991. Principal team members include principal investigator Marion Johnson, PhD, RN, and co-principal investigators Meridean Maas, PhD, RN, FAAN and Sue Moorhead, PhD, RN. According to its creators, NOC is a taxonomy of standardized nursing-sensitive client outcomes with the following characteristics:

- Includes outcomes that nursing care can affect
- Applies to an individual recipient of nursing care
- Applies to a lay caregiver for the individual
- Describes states and behaviors (including perceptions and subjective states)
- Encompasses entire continuum of care
- Provides a consistent measure of client and lay caregiver status

(Iowa Outcomes Project, 2000)

The strengths of the Nursing-sensitive Outcomes Classification are:

- Comprehensiveness
- Research-based
- Developed inductively and deductively
- Grounded in clinical practice and research
- Uses clear, clinically useful language
- Outcomes can be shared by all disciplines
- Optimizes information for the evaluation of effectiveness
- Tested in clinical field sites
- Dissemination emphasized
- Linked to the North American Nursing Diagnosis Association (NANDA) and the Nursing Interventions Classification (NIC) taxonomies.

(Iowa Outcomes Project, 2000)

NOC’s Credentials:

- The ANA’s Congress of Nursing Practice Steering Committee on Databases to Support Clinical Nursing Practice has recognized Nursing Outcomes Classification (NOC) as a classification system useful for clinical nursing practice.
- NOC has also been included in the National Library of Medicine for inclusion in the Unified Medical Language System (UMLS) Metathesaurus.
- NOC is also officially registered as an HL7 terminology.

(University of Iowa College of Nursing, 2003)
Background

History of Outcomes Classification

The use of outcomes and data collection in healthcare began with Florence Nightingale during the Crimean War. Since that time, their use has been largely centered on physician practice, diagnosis and the patient record (Saba & McCormick, 2001).

A century later, in the 1960s, the first use of outcomes in modern nursing practice came about with evaluation of nursing care systems, using changes in behavioral and physical patient characteristics (Lang & Clinton, 1984). Over the years, a number of different outcomes have been used by nurses to evaluate practice.

In the 70s and 80s, there were major efforts to classify nursing outcomes and indicators across many categories such as patient’s health status, functional status, use of resources, health knowledge and attitudes, goal attainment, discharge status, etc., but with little or no standardization. The 90s brought a new emphasis on evaluation of nursing effectiveness using conceptual models that take into account the relationships among outcomes, process and structure (Iowa Outcomes Project, 2000).

In addition to NOC, several other classification systems that focus on, or contain outcomes components have been developed in recent years. They include the Omaha and Home Healthcare Classification systems (both used in homecare), the Patient Care Data Set (used in hospital settings), the OASIS data set which has been required as a condition of Medicare participation since 1998, and the International Classification for Nursing Practice (a multi-axial system proposed for acceptance by the International Council of Nurses membership) (Iowa Outcomes Project, 2000).

Why was NOC created?

In the last twenty years, the changing healthcare environment has raised many questions about assessment of clinical practice. Traditionally, outcomes have been measured in two ways:

- Global Outcomes
  - Multidisciplinary outcomes
  - Health status
  - Patient satisfaction

- Specific Outcomes
  - Diagnosis-Specific
  - Organization-Specific
  - Discipline-Specific (mostly Physician)
To build on Nursing knowledge and improve nursing care, a discipline-specific, nursing-sensitive common language of outcomes must be used in clinical settings, so that interventions can be continually validated (Iowa Outcomes Project, 2000). The impetus for the development of NOC came from work on NANDA and NIC. The team set out to “conceptualize, label, validate, and classify Nursing-sensitive patient outcomes.” (Iowa Outcomes Project, 2000)

The Development Process
To form the approach to the creation of NOC, two kinds of questions were posed:

- **Conceptual Questions**
  - Who is the Patient?
  - What do Outcomes Describe?
  - At What Levels of Abstraction Should Outcomes Be Developed?
  - How Should the Outcomes Be Stated?
  - What are Nursing-Sensitive Outcomes?
  - Are Nursing-Sensitive Outcomes the Resolution of Nursing Diagnoses?
  - When Should Outcomes Be Measured?

- **Methodological Questions**
  - What strategies are used (inductive or deductive, qualitative or quantitative)?
  - What sources are used to sample outcome statements?
  - What criteria are used to select the sources from which outcome statements are extracted?
  - How are nursing-sensitive outcomes and indicators validated?
  - What methods will be used to develop the classification structure?

An inductive approach was taken where outcomes and indicators were identified and grouped into classes under health domains (Iowa Outcomes Project, 2000).

The NOC Taxonomy
NOC is a 3-level classification system currently composed of 7 Domains, 29 Outcome Classes and 260 Outcomes:

<table>
<thead>
<tr>
<th>Health Domain</th>
<th>Outcome Class</th>
<th>Outcome (indicators and scores)</th>
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Each outcome is associated with varying numbers of indicators. Each indicator is given a score on one of 17, 5-point Likert-type scales. This structure allows for measurement and comparison at any point along a continuum, as opposed to a "goals met" approach. It also allows for future expansion as it becomes necessary. It can be expanded to 10 domains, with 52 Classes, each class having a maximum of 99 outcomes.

Why Choose and Use NOC?

There are many patient outcomes in use in clinical practice today that fall into the following groups:

- Broad categories with no means of qualification or quantification
- Middle- and narrow-specificity categories that are relevant only to particular clinical settings

NOC provides a standard of measurable outcomes that can be used to evaluate nursing practice in all settings. Its benefits include:

- Labels and provides measures for comprehensive outcomes that respond to nursing intervention.
- Defines outcomes that focus on the patient and can be used by both nurses and other disciplines.
- Provides more specific outcome information than global health status measures. This allows providers to identify problems when global health status measures are not in an acceptable range.
- Provides outcomes that are intermediate to the achievement of longer range desired outcomes.
- Uses a scale to measure outcomes which provides quantifiable information about patient outcomes achieved in an organization or managed care system.
- Facilitates the identification of risk adjustment factors for population groups. This is a necessary step in the assessment of outcome variance (University of Iowa College of Nursing, 2003).

As Clinicians

NOC can be used in clinical practice for establishing individual client and patient group goals, and for outcomes measurement and management. The use of multiple indicators allow the nurse to create individualized patient goal statements. Progress toward a goal can be shown, even if the goal has not yet been met.

As a Profession

NOC can be used in research, policy formation, and education. Because it provides a standard vocabulary, the nurse can demonstrate the relationship
between patient status and nursing interventions over time. Data aggregation becomes possible, and even more so when NOC is used in an electronic format. In an educational setting, NOC can be used to teach and enhance decision making skills, especially when it is used with NIC and NANDA.

“A need exists for standardized language and data base development in nursing if nursing is to become a full participant in healthcare restructuring and effectiveness research. Policy decision-makers will not be responsive to a discipline that cannot provide data supporting its effectiveness. Nursing-sensitive patient outcomes provide one of the data elements for the NMDS (Nursing Minimum Data Set). Development and use of such a data set will provide nurses with the information needed for the determination of nursing practice effectiveness.” (Iowa Outcomes Project, 2000)
References


